

CLAIMS

We claim:

1. A method of supporting multiple data stores for an integrated access
5 system and identity system, comprising the steps of:

receiving a request at said integrated access system and identity system, said
integrated access system and identity system supporting a plurality of data stores;
accessing one or more of said data stores in response to said request; and
reporting information based on said step of accessing.

10 2. A method according to claim 1, wherein:
said step of accessing includes reading data.

15 3. A method according to claim 1, wherein:
said step of accessing includes writing data.

4. A method according to claim 1, wherein:
said step of reporting includes confirming a write action.

20 5. A method according to claim 1, wherein:
said plurality of data stores includes LDAP directories.

25 6. A method according to claim 1, wherein:
said plurality of data stores include at least one LDAP directory and at least
one SQL database.

7. A method according to claim 1, wherein:
said plurality of data stores include different types of data stores.

30 8. A method according to claim 1, wherein:
said step of accessing includes reading first data from a first data store and
reading second data from a second data store; and

said step of reporting includes translating said first data to a first format and translating said second data to said first format.

9. A method according to claim 8, wherein:
5 prior to said translating, said first data is in a different format than said second data.

10. A method according to claim 8, wherein:
said first data store is a first type of data store; and
10 said second data store is a second type of data store.

11. A method according to claim 1, wherein:
said step of accessing includes reading first data from a first data store and
reading second data from a second data store; and
15 said step of reporting includes combining said first data with said second data.

12. A method according to claim 11, wherein:
said first data store is a first type of data store; and
said second data store is a second type of data store.
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13. A method according to claim 1, wherein:
said step of accessing includes multiple read and write operations to said data
stores in response to said request.

25 14. A method according to claim 1, wherein said step of accessing includes the steps of:
determining which data stores can service a particular data access;
creating a proxy with one or more pointers to agents for said data stores that
can service said particular data access; and
30 facilitating performance of said particular data access using said proxy.

15. A method according to claim 1, wherein said step of accessing includes

the steps of:

determining which data stores can service a particular data access, each data store is associated with an agent; and

communicating with agents for said data stores that can service said particular data access in order to perform said particular data access.

16. A method according to claim 1, wherein:
said data stores store disjoint namespaces.

10 17. A method according to claim 1, wherein:
each said data store stores a different portion of a directory.

18. A method of supporting multiple data stores, comprising the steps of:
receiving a request to access one or more of a plurality of data stores;
15 determining which data stores can service said request, each data store is associated with a separate agent;
accessing said data stores that can service said request by communicating with said associated agents; and
reporting information based on said step of accessing.

20 19. A method according to claim 18, wherein:
said step of determining includes querying a profile for each data store.

20. A method according to claim 18, wherein said step of accessing
25 includes the steps of:

creating a proxy with one or more pointers to agents associated with said data stores that can service said request; and

communicating, via said proxy, with said data stores that can service said request.

30 21. A method according to claim 20, wherein:
said step of receiving is performed by a database manager;

said step of determining is performed by said database manager;
said step of creating is performed by said database manager; and
said step of communicating is not performed by said database manager.

5 22. A method according to claim 18, wherein:
 each data store is associated with a connection manager for communicating
with said data store.

10 23. A method according to claim 18, wherein:
 said step of determining includes querying a profile for each data store;
 said step of accessing includes the steps of:
 creating a proxy with one or more pointers to agents associated with
 said data stores that can service said request, and
 communicating, via said proxy, with said data stores that can service
15 said request;
 said step of receiving is performed by a database manager;
 said step of determining is performed by said database manager;
 said step of creating is performed by said database manager;
 said step of communicating is not performed by said database manager; and
20 each data store is associated with a connection manager for communicating
with said data store.

25 24. A method according to claim 18, wherein:
 said plurality of data stores include different types of data stores.

 25. A method according to claim 18, wherein:
 said step of accessing includes reading first data from a first data store and
reading second data from a second data store; and
 said step of reporting includes translating said first data to a first format and
30 translating said second data to said first format, prior to said translating, said first data
is in a different format than said second data.

26. A method according to claim 18, wherein:
said step of accessing includes reading first data from a first data store and
reading second data from a second data store;
said first data store is a first type of data store;
5 said second data store is a second type of data store; and
said step of reporting includes combining said first data with said second.

27. A method according to claim 18, wherein:
said steps of receiving, determining, accessing and reporting are performed by
10 an Identity System.

28. A method of supporting multiple data stores, comprising the steps of:
receiving a request to access one or more of a plurality of data stores;
determining which data stores can service said request;
15 creating a proxy having knowledge of which data stores can service said
request;
using said proxy to access said data stores that can service said request; and
reporting information based on said step of accessing.

29. A method according to claim 28, wherein:
said knowledge of which data stores can service said request includes
maintaining a set of pointers to agents for said data stores that can service said
request.

30. A method according to claim 28, wherein said step of using includes
the steps of:

receiving, at said proxy, a data operation;
communicating said data operation from said proxy to data stores;
receiving one or more results at said; and
30 reporting said results.

31. A method according to claim 28, wherein:

said plurality of data stores include different types of data stores.

32. A method according to claim 28, wherein said step of using includes the steps of:

5 reading first data from a first data store; and

reading second data from a second data store, said step of reporting includes translating said first data to a first format and translating said second data to said first format, said first data is in a different format than said second data prior to said translating.

10 33. A method according to claim 28, wherein:

said step of facilitating includes reading first data from a first data store and reading second data from a second data store;

said first data store is a first type of data store;

15 said second data store is a second type of data store; and

said step of reporting includes combining said first data with said second.

34. A method according to claim 28, wherein:

20 said steps of receiving, determining, creating and reporting are performed by an Identity System.

35. One or more processor readable storage devices having processor readable code embodied on said processor readable storage devices, said processor readable code for programming one or more processors to perform a method comprising the steps of:

25 receiving a request at an integrated access system and identity system, said integrated access system and identity system supporting a plurality of data stores; and

accessing one or more of said data stores in response to said request; and

reporting information based on said step of accessing.

30 36. One or more processor readable storage devices according to claim 35, wherein:

said plurality of data stores include different types of data stores.

37. A method according to claim 35, wherein:

said step of accessing includes reading first data from a first data store and
5 reading second data from a second data store; and

said step of reporting includes translating said first data to a first format and
translating said second data to said first format.

38. One or more processor readable storage devices according to claim 35,
10 wherein said step of accessing includes the steps of:

determining which data stores can service a particular data access;
creating a proxy with one or more pointers to agents for said data stores that
can service said particular data access; and
facilitating performance of said particular data access using said proxy.

39. One or more processor readable storage devices according to claim 35,
wherein said step of accessing includes the steps of:

determining which data stores can service a particular data access, each data
store is associated with an agent; and
20 communicating with agents for said data stores that can service said particular
data access in order to perform said particular data access.

40. One or more processor readable storage devices having processor
readable code embodied on said processor readable storage devices, said processor
25 readable code for programming one or more processors to perform a method
comprising the steps of:

receiving a request to access one or more of a plurality of data stores;

determining which data stores can service said request, each data store is
associated with a separate agent;

30 accessing said data stores that can service said request by communicating with
said associated agents; and

reporting information based on said step of accessing.

41. One or more processor readable storage devices according to claim 40, wherein said step of accessing includes the steps of:

creating a proxy with one or more pointers to agents associated with said data
5 stores that can service said request; and
communicating, via said proxy, with said data stores that can service said request.

42. One or more processor readable storage devices according to claim 40,
10 wherein:

said step of receiving is performed by a database manager;
said step of determining is performed by said database manager;
said step of creating is performed by said database manager; and
said step of communicating is not performed by said database manager.

43. One or more processor readable storage devices according to claim 40,
wherein:

said plurality of data stores include different types of data stores.

44. One or more processor readable storage devices according to claim 40,
wherein:

said step of accessing includes reading first data from a first data store and
reading second data from a second data store; and

said step of reporting includes translating said first data to a first format and
25 translating said second data to said first format, prior to said translating, said first data
is in a different format than said second data.

45. One or more processor readable storage devices according to claim 40,
wherein:

30 said steps of receiving, determining, accessing and reporting are performed by
an Identity System.

46. One or more processor readable storage devices having processor readable code embodied on said processor readable storage devices, said processor readable code for programming one or more processors to perform a method comprising the steps of:

receiving a request to access one or more of a plurality of data stores;
determining which data stores can service said request;
creating a proxy having knowledge of which data stores can service said request;

using said proxy to access said data stores that can service said request; and
reporting information based on said step of accessing.

47. One or more processor readable storage devices according to claim 46, wherein:

said plurality of data stores include different types of data stores.

48. One or more processor readable storage devices according to claim 46, wherein said step of using includes the steps of:

reading first data from a first data store; and

reading second data from a second data store, said step of reporting includes translating said first data to a first format and translating said second data to said first format, said first data is in a different format than said second data prior to said translating.

49. One or more processor readable storage devices according to claim 46, wherein:

said steps of receiving, determining, creating and reporting are performed by an Identity System.

50. An apparatus that supports multiple data stores, comprising:
a communication interface;
one or more processors in communication with said communication interface,

said one or more processor programmed to perform a method comprising the steps of:
receiving a request to access one or more of a plurality of data stores,
determining which data stores can service said request,
creating a proxy having knowledge of which data stores can service
5 said request;
using said proxy to access said data stores that can service said request,
and
reporting information based on said step of accessing.

10 51. An apparatus according to claim 50, wherein:
said plurality of data stores include different types of data stores.

52. An apparatus according to claim 50, wherein said step of using
includes the steps of:

15 reading first data from a first data store; and
reading second data from a second data store, said step of reporting includes
translating said first data to a first format and translating said second data to said first
format, said first data is in a different format than said second data prior to said
translating.

20 53. An apparatus according to claim 50, wherein:
said steps of receiving, determining, creating and reporting are performed by
an integrated Identity System and Access System.

25 54. An apparatus according to claim 50, wherein:
said step of using includes said proxy communicating with separate agent for
each of said data stores that can service said request.

30 55. A system that supports multiple data stores, comprising:
a set of profiles, each profile associated with one of said data stores;
a set of agents, each agent associated with one of said data stores;
a temporary proxy; and

a database manager, said database manager in communication with said profiles, said database manager creates said proxy in response to a request to access said data stores, said database manager caused said proxy to be in communication with agents associated with data stores that can service said request.

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56. A system according to claim 55, wherein:
said database manager is part of an integrated Identity System and Access System.

57. A system according to claim 55, wherein:
10 said multiple data stores include different types of data stores.

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